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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/781,682 | 02/12/2001 | Robert F. Kovar | 48997 (70184) | 6125 |

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EXAMINER

MCCLENDON, SANZA L

ART UNIT PAPER NUMBER

1711

DATE MAILED: 11/17/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,682

Applicant(s)

KOVAR ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 19-21, 23, 24, 26-35, 38, 52-57, 64 and 65 is/are rejected.
- 7) ☒ Claim(s) 12-18, 22, 25, 36, 37, 39-51, 58-63 and 66-74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: _____

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on August 14, 2003 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11, 19-21, 23-24, 26-35, 38, 52-56, and 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidle et al (4,182,848 and 4,157,421) in view of Kovar et al (5,977,269).

(Note the column and line reference made in the rejection are from Schmidle et al (4,182,848))

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Schmidle et al teaches photocurable compositions comprising a polyene and a polythiol. Said polyene is derived from vinyl-1,3-dioxolane or vinyl-1,3-dioxane or has the formula as found in column 1, lines 55-60. Wherein Q of the formula can be a polyester, polyester-polyurethane, polyether, and the like—see column 1, lines 60-62. This reads claims 4-5, and 8. In addition, Schmidle et al teaches using dioxolanes, such as 4-hydroxymethyl-2-vinyl-1,3-dioxolane. This reads claims 19-20 and 54-55. Said polyester-polyurethane is described in column 2, lines 25-32 and examples 3 and 4. Said polyesters are formed using the polyhedral alcohols and polycarboxylic acids, such as those listed in column 3, lines 5-44, wherein claims 6-7 are met. The polyisocyanates used to prepare the polyester-polyurethane linkages can be found in column 3, lines 45 to the end to column 4, lines 1-25, wherein claims 9-11 and 53 are found to be met. In addition to the vinyl dioxolane and polythiol, the compositions can further comprise a U.V. initiator, such as benzophenone, benzion, and the like, an antioxidant, and a flow control agent, therefore claim 1 and 52 are read by the reference. The benzophenone reads claims 21, 38, and 64, wherein per example 5 it is used in amounts from 1.5 parts by weight. Therefore claims 23-24 are read in the reference because 1.5 meets "about 2" in claim 24. Additionally, Schmidle et al teaches using reactive diluents, such as vinyl dioxolanes having polyester linkages, for controlling viscosity—column 4, lines 56-58. Thus, claims 27-29 are met by the reference. Schmidle et al teaches applying the composition to a substrate and exposing the ultraviolet radiation curing—see column 2, lines 56-60. This reads the method of claim 56, in addition, to claims 2-3.

It is noted that Schmidle et al teaches adding organic solvents to the compositions to control the viscosity, however Schmidle et al, also, teaches using reactive diluents as viscosity controlling agents. Kovar et al teaches polyester/vinyl dioxolane coating compositions comprising no volatile organic solvents.

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Kovar et al and Schmidle et al are analogous art because they are from the same field of endeavor that is polyester/vinyl dioxolane coating compositions.

Therefore, it would have been obvious for a skilled artisan to use reactive diluents instead of organic solvents because it is well known in the art to use reactive diluents instead of organic solvents, to elevate atmospheric pollution caused by the evaporation of organic solvents, to control the viscosity of the coating compositions, as taught by Kovar et al—see column 1, lines 20-40.

Schmidle et al does not expressly teach that the coating compositions are sprayable, or using reactive diluents such as those found in claim 65, nor pigments. However Schmidle et al teaches using vinyl dioxolanes as reactive diluents. Kovar et al teaches using reactive diluents for the polyester/vinyl dioxolane compositions, such as other vinyl dioxolanes and vinyl monomers, such as trimethylol propane triacrylate, and Kovar teaches the polyester/vinyl dioxolane compositions can have added pigments, such as metal oxides and organic pigments—see column 14, lines 13-16. In addition, Kovar et al teaches adding reactive diluents helps to adjust the viscosity of polyester/vinyl dioxolane compositions so they can be made to be sprayable. As seen above Schmidle and Kovar are analogous art, therefore it would have been obvious for a skilled artisan to use vinyl monomers, such as those taught by Kovar et al, as reactive diluents in compositions, such as disclosed by Schmidle et al, in addition to using coloring agents, such as pigments. The motivation would have been a reasonable expectation of adjusting the viscosity of the vinyl dioxolane-containing compositions with adequate success to prepare a sprayable colored coating composition in the absence of unexpected results or convincing arguments to the contrary.

With regards to claims 31-33, the examiner deems that it would have been obvious for a skilled artisan to add the reactive diluent in amounts that produce the necessary viscosities for providing coatable/sprayable compositions, because both Schmidle et al and Kovar are concerned with controlling viscosities so that said

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compositions are either sprayable or capable of being applied as thin layers/films. Therefore, claims 31-33 are read in the references.

Response to Arguments

4. Applicant's arguments filed August 14, 2003 have been fully considered but they are not persuasive. It is noted that applicant believes that the Schmidle et al patents are distinguished from the instant invention because they are made from different starting materials and are formed by different curing mechanisms. However, applicants instantly claimed invention is a composition, which is essentially VOC free, comprising a vinyl dioxolane end-capped oligomer and at least one photoinitiator, the starting materials and curing mechanisms are not a part of the claim. The combination of Schmidle et al and Kovar are deemed to render obvious the instantly claimed composition because they teach compositions comprising essentially the same components.

Allowable Subject Matter

5. Claims 12-18, 22, 25, 36-37, 39-51, 57-63, and 66-74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a photocurable composition comprising a vinyl dioxolane end-capped oligomer comprising a polyurethane derived from TMXDI or comprising a polyurethane acrylate derived from the components found in claims 14-18 and a photoinitiator, such as a polymeric hydroxy ketone, in an amount from about 4 to about 5 weight percent. Nor does the prior art teach the previously described composition comprising the components found in claims 36-37, 39-51, 57-63, and 66-74.

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

Sanza L McClendon

Examiner

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SMc


RABON SERGENT
PRIMARY EXAMINER